

Fax

To: Harvey Walker From: Tim Luke
Fax: 527-3254 Date: 6/17/03
Phone: — Pages: 4 including cover sheet
Re: _____ CC: _____

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

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Following is the item you requested from
Tim. Letter to Seth Beal dated 6/16/03
from Jennifer Berkey including attachment
of "Mackay Reservoir Contents, Inflow, and
Outflow Data"

Please contact Dayna at 327-7907
if you have any problems with the
fax.



State of Idaho

DEPARTMENT OF WATER RESOURCES

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DIRK KEMPTHORNE
 Governor

KARL J. DREHER
 Director

June 16, 2003

Seth E. Beal, Chairman
 Advisory Committee
 Water District 34
 P.O. Box 46B
 Moore, ID 83255

Dear Mr. Beal:

As you requested, data pertaining to the contents, inflow, and outflow of Mackay Reservoir between May 1, 2003 and June 7, 2003 are attached. Please note that this data may differ slightly from data reported by the Big Lost River Irrigation District (BLRID), because the Department's data accounts for reservoir evaporation and uses the daily mean flow reported by the U.S. Geological Survey for the 2B Gage.

Between May 1 and May 23, 2003, the calculated release from Mackay Reservoir ranged from 82 to 86 cfs. According to the Watermaster, this water was leakage from the reservoir that was not intentionally released by BLRID. Between May 1 and May 23, 2003, the daily change in contents of the reservoir ranged from zero to 100 acre-feet and the net increase in reservoir contents was 1,040 acre-feet. Note that prior to May 26, 2003 water rights in the Big Lost River system at and above Mackay Reservoir were administered separately from those below Mackay Dam. While separate administration is in effect, inflow to the reservoir is allocated to fill reservoir storage rights, without regard to water rights downstream of the dam.

Based on the 2B Gage daily mean flow, obtained from the U.S. Geological Survey (USGS), BLRID began releasing water on May 24, 2003. The estimated daily mean outflow was 248 cfs on May 24, 2003 and had been increased to 796 cfs by June 7, 2003. Between May 24 and June 7, 2003, the daily change in reservoir contents ranged from -550 to 2,000 acre-feet and the net increase in reservoir contents was 6,320 acre-feet.

On May 26, 2003, the river became "connected" based on the criteria in the General Provisions. Between May 26 and May 31, the Watermaster increased the priority date as inflow to the reservoir increased. The 2B Gage data indicate that the flow released from the reservoir also increased during this period.

Between May 31 and June 5, 2003, approximately 6,458 acre-feet were diverted into storage at the reservoir. During this period, the priority date reported by the Water District for natural flow rights downstream of the reservoir was May 30, 1915. According to our records, there are no downstream natural flow rights with priority dates between May 30, 1915 and the February 2, 1916 right to store water in Mackay Reservoir. Therefore, after releasing water to fill deliverable rights prior to May 30, 1915, BLRID was entitled to divert the remaining inflow to storage.

Based on the available data, it does not appear that BLRID has stored natural flow in the reservoir in excess of their rights. If you have any questions regarding this letter, please contact Tim Luke at 208-327-7864 or Jennifer Berkey at 208-327-7871.

Sincerely,

A handwritten signature in cursive script, reading "Jennifer Berkey".

Jennifer Berkey
Water Distribution

Attachment

cc: Bob Duke, Watermaster, Water District 34
Bob Shaffer, Big Lost River Irrigation District

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MACKAY RESERVOIR CONTENTS, INFLOW, AND OUTFLOW DATA
May 1 2003 to June 7, 2003

Date	Reservoir Contents	Change in Contents		Calculated Inflow	2B Gage Reading	Calculated Release	Diverted to Storage	Priority Date Called by	Howell Gage Reading
	AF	AF	cfs	cfs	daily mean cfs	cfs	cfs	Watermaster	daily peak cfs
1-May	23,910	30	15.1	106	83	86	20	10/12/1884	
2-May	24,000	90	45.4	136	83	86	50	10/12/1884	
3-May	24,090	90	45.4	136	83	86	50	10/12/1884	
4-May	24,190	100	50.4	141	83	86	55	10/12/1884	
5-May	24,250	60	30.2	119	78	84	35	10/12/1884	
6-May	24,310	60	30.2	119	76	83	36	10/12/1884	
7-May	24,380	70	35.3	124	76	83	41	10/12/1884	
8-May	24,440	60	30.2	119	76	83	36	10/12/1884	
9-May	24,510	70	35.3	122	76	83	39	10/12/1884	
10-May	24,550	40	20.2	109	76	83	26	10/12/1884	
11-May	24,600	50	25.2	114	77	84	30	10/12/1884	
12-May	24,670	70	35.3	124	76	83	41	10/12/1884	220
13-May	24,720	50	25.2	115	76	83	32	8/31/1884	244
14-May	24,770	50	25.2	115	76	83	32	8/31/1884	237
15-May	24,810	40	20.2	111	76	82	29	8/31/1884	263
16-May	24,850	40	20.2	111	76	82	29	8/31/1884	382
17-May	24,850	0	0.0	91	76	82	9	8/31/1884	307
18-May	24,870	20	10.1	101	76	82	19	8/31/1884	319
19-May	24,870	0	0.0	90	76	82	8	5/31/1884	294
20-May	24,890	20	10.1	100	76	82	18	5/31/1884	275
21-May	24,900	10	5.0	96	76	83	13	5/31/1884	299
22-May	24,920	20	10.1	102	76	83	19	5/31/1884	457
23-May	24,940	20	10.1	101	76	83	18	5/31/1884	873
24-May	24,950	10	5.0	262	240	248	14	5/31/1884	1,220
25-May	24,400	-550	-277.3	118	378	386	-268	5/31/1884	1,660
26-May	24,010	-390	-196.6	200	379	387	-187	5/31/1884	2,180
27-May	24,050	40	20.2	416	379	387	29	5/31/1884	2,190
28-May	24,330	280	141.2	686	526	534	152	5/31/1884	2,320
29-May	24,350	20	10.1	622	590	598	24	10/2/1885	2,670
30-May	25,050	700	352.9	953	580	588	365	9/1/1895	3,479
31-May	26,460	1,410	710.9	1363	629	639	724	5/3/1915	3,710
1-Jun	28,460	2,000	1008.3	1688	656	665	1023	5/30/1915	2,680
2-Jun	29,910	1,450	731.0	1439	683	692	747	5/30/1915	1,990
3-Jun	30,630	720	363.0	1089	702	711	378	5/30/1915	1,800
4-Jun	31,090	460	231.9	959	705	714	245	5/30/1915	1,580
5-Jun	31,340	250	126.0	867	719	728	139	5/30/1915	1,419
6-Jun	31,370	30	15.1	781	748	757	24	9/24/1900	1,330
7-Jun	31,270	-100	-50.4	755	787	796	-41	9/24/1900	1,400

Notes:

- 1) The calculated reservoir inflow is the sum of the 2B Gage reading, Sharp diversion change in reservoir contents and reservoir evaporation.
- 2) The calculated reservoir outflow is the sum of the 2B Gage reading and the Sharp diversion
- 3) Reservoir content and Sharp diversion data were obtained from the Big Lost River Irrigation District
- 4) Provisional 2B Gage data were obtained from the U.S. Geological Survey.
- 5) Reservoir evaporation data were estimated using a correlation developed between historic pan evaporation at Mackay reservoir and daily evapotranspiration data from the Aberdeen Hydromet station, obtained from the U.S. Bureau of Reclamation.
- 6) Water diverted to storage includes water stored under BLRID water rights and water rotated into storage if applicable.
- 7) Water diverted to storage exceeds the change in reservoir content because of evaporation losses.
- 8) Separate administration of water rights above and below Mackay Reservoir ended on May 25, 2003 based on the criteria of General Provision 6a